

In the Claims:

1. A message-based method for managing a storage area network (SAN), comprising:
 - receiving an alert related to a state of a device coupled to the SAN;
 - 5 parsing the alert to identify the state of the device, comprising:
 - determining a problem category, and
 - determining action options, comprising consulting an action rules database;
 - identifying action required in response to the identified state of the device; and
 - 10 identifying a notification message, wherein the notification message provides information related to the state of the device.
2. The method of claim 1, further comprising identifying an operator of the SAN to receive the notification message.
3. The method of claim 2, further comprising sending the notification message to the
15 operator.
4. The method of claim 3, further comprising:
 - waiting on a response message from the operator, wherein the response message directs performance of one or more action steps; and
 - directing execution of the action steps.
- 20 5. The method of claim 4, wherein the information in the notification message includes one or more suggested action steps for execution.
6. The method of claim 1, further comprising directing performance of one or more automatic action steps.
7. The method of claim 1, wherein the information includes a report of automatic
25 action steps completed.
8. The method of claim 1, wherein the notification message is one of an e-mail message, a voice message and a voice-to-text message.
9. A method for managing a storage area network (SAN), wherein a message processor receives alerts from a management server and sends notification messages to
30 SAN operators, the method, comprising:
 - monitoring states of devices coupled to the SAN;
 - receiving an alert when a state of a device indicates a problem;
 - determining if the alert is understood, wherein if the alert is not understood, the message processor sends a return message to the management server;

- identifying a device subject to the alert;
identifying a problem as indicated by the alert;
identifying action steps for responding to the problem;
identifying an operator to receive a notification message; and
5 formatting and sending the notification message.
10. The method of claim 9, wherein identifying the problem comprises:
identifying a problem category; and
consulting an action rules database.
11. The method of claim 9, wherein identifying action steps comprises:
10 determining if action is required;
identifying the action; and
determining if the action is automatic.
12. The method of claim 11, further comprising, if the action is automatic, initiating the action.
- 15 13. A message-based system for managing a storage area network (SAN), comprising:
a management server that monitors states of devices coupled to the SAN and
sends alert messages based on the states; and
a message processor that receives the alert messages and sends notification
messages, the message processor comprising:
20 a receiver that receives the alert messages,
a parser that analyzes the received alert messages,
a formatter/addresser that formats and addresses the notification messages,
and
a transmitter that sends the notification messages to messaging devices.
- 25 14. The system of claim 13, further comprising an action rules database that specifies possible corrective actions, wherein the parser consults the database and uses a state of a device to determine action options.
15. The system of claim 14, wherein the possible corrective actions include actions to be initiated automatically by the message processor.
- 30 16. The system of claim 14, wherein the possible corrective actions include action options requiring approval of a system administrator receiving a notification message, and wherein the notification message includes the action options.
17. The system of claim 13, wherein the formatter/addresser formats the alert messages for receipt by one or more of a Web browser, a mobile phone, and a telephone.

18. The system of claim 13, wherein the management server initiates automatic corrective action based on a monitored state of a device, and wherein a notification message indicates the action taken by the management server.
19. The system of claim 13, wherein the alert messages are e-mail messages.
- 5 20. The system of claim 13, further comprising a lightweight directory access protocol (LDAP) database that specifies recipients of the alert messages and transmission modes and addresses.
21. A computer program product comprising a computer-readable medium and computer-readable code embodied on the computer-readable medium, the computer-readable code configured to cause a computer to execute the following steps:
- 10 comprising:
- receiving an alert related to a state of a device coupled to a storage area network (SAN);
 - parsing the alert to identify the state of the device, comprising:
 - 15 determining a problem category, and
 - determining action options, comprising consulting an action rules database;
 - identifying action required in response to the identified state of the device; and
 - identifying a notification message, wherein the notification message provides
- 20 information related to the state of the device.
22. The computer program product of claim 21, the steps further comprising identifying an operator of the SAN to receive the notification message.
23. The computer program product of claim 21, the steps further comprising sending the notification message to the operator.
- 25 24. The computer program product of claim 23, the steps further comprising:
 - waiting on a response message from the operator, wherein the response message directs performance of one or more action steps; and
 - directing execution of the action steps.
25. The computer program product of claim 24, wherein the information in the
- 30 notification message includes one or more suggested action steps for execution.
26. The computer program product of claim 21, the steps further comprising directing performance of one or more automatic action steps.
27. The computer program product of claim 21, wherein the information includes a report of automatic action steps completed.

28. A message-based system for managing a storage area network (SAN), comprising:
means for monitoring states of devices coupled to the SAN;
means for sending alert messages based on the states; and
means for receiving the alert messages and sending notification messages, the
5 receiving means comprising:
means for analyzing the received alert messages, and
means for formatting and addressing the notification messages, wherein
the notification messages are sent to messaging devices.
29. The system of claim 28, further means for specifying possible corrective actions,
10 wherein the analyzing means consults the specifying means and uses a state of a device to
determine action options.
30. The system of claim 29, wherein the possible corrective actions include actions to
be initiated automatically by the receiving means.
31. The system of claim 29, wherein the possible corrective actions include action
15 options requiring approval of a system administrator receiving a notification message, and
wherein the notification message includes the action options.
32. The system of claim 28, wherein the formatting/addressing means formats the
alert messages for receipt by one or more of a Web browser, a mobile phone, and a
telephone.